ELECTRICITY PRICE REVIEW

ChargeNet NZ Submission

ChargeNet.nz
Electric Vehicle Charging Network

23 October 2018

SUBMISSION TO	Ministry of Business, Innovation and Employment
REGARDING	Electricity Price Review
DATE	23 October 2018
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Introduction

ChargeNet NZ Limited (ChargeNet) welcomes the opportunity to submit to the Ministry for Business, Innovation and Employment (MBIE) for the Electricity Price Review.

We have focused our submission specifically on the areas that are relevant to our business, rather than the wide focus the Ministry has (and must) take in respect of the electricity industry. We commend MBIE for embarking on such a project, given the vital role electricity will play in our country's future as we transition to a net carbon zero economy.

The purpose of this review is to ensure our electricity system must be efficient, delivering fair prices, and working for the good of New Zealanders – a purpose that ChargeNet supports. ChargeNet is a values-led enterprise, and values a transparent, efficient system, working for the benefit of all New Zealanders.

Content

Background

ChargeNet, founded in 2015, is the largest privately-owned, fast charging network for electric vehicles in the Southern Hemisphere. ChargeNet was started on the belief that electric vehicles (EVs) are the future of New Zealand's transport system, and now has over 100 stations across the country providing electricity to the 10,000 (and growing) EV drivers.

We note that the submission following does not necessarily represent the views of our customers; this submission is provided as a commercial entity with a vested interest in the area. However, as a values-led social enterprise that promotes sustainability benefits (including environmental, social, economic and community), our submission should also be read knowing that the sustainable future of New Zealand forms an integral part of our driving force.

Submission

The decarbonisation of the transport sector and particularly the mass deployment of electric vehicles will be one of the most important challenges for the decades to come. Consequently, the impact of electric vehicles will have an important impact on the electrical grid and its future.

Part four: Assessment of the allocation of distribution costs and cross-subsidization

The cost to distribute electricity is highly dependent on the density of the connections to the network. It is much cheaper on a per customer basis to distribute electricity to a street full of houses in a suburban setting than to rural properties that may be hundreds of metres or kilometres apart, and distributors on the whole do not apportion costs to their customers in a way that directly reflects this difference. The result is a level of internal cross-subsidization between rural and urban customers.

Different distributors have a varying mix of rural and urban customers which results in an overall average connection cost that varies between distributor. Many distributors are well-positioned with cities inside their borders with high customer density that allows those urban customers' connections to fund their rural customers. Other distributors may have little to no urban customers which results in overall higher prices for their customer base. As a nation-wide service that connects to nearly every distributor in New Zealand ChargeNet is exposed to the dramatically different prices of distributors imposed by historical arbitrary borders.[1]

We submit that there must be a decision on whether New Zealand wants cross-subsidization: is it beneficial to the country as a whole to subsidise rural and expensive electricity connections? If so, this should be an explicit statement via an industry funding mechanism. For instance, we could look to the Kiwi Share programme devised when Telecom – then a state-owned enterprise – was sold to private investors in 1990.[2] Kiwi Share was devised to ensure that New Zealand retained:

- unlimited free local calling; and to
- charge no more than the standard residential rental for ordinary residential telephone services (even in the less profitable rural areas); and
- continue to make ordinary residential telephone service as widely available as at 1 November 1989.

Part five: affordability, pricing mechanisms and fairness of pricing

There is a reference within the review to the ongoing equity issue that surrounds EVs: low-income households cannot afford them but will bear a disproportionate share of the cost of expanding network capacity to support EVs. We acknowledge there are ongoing costs with

[1] See Commerce Commission, Electricity Distributor Map, available at: https://comcom.govt.nz/regulated-industries/electricity-lines/electricity-distributor-map.

[2] See "Government announces updated Kiwi Share obligation" 18 December 2001 available at: https://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=10419360.

emerging technologies like EVs, but this problem is not limited to New Zealand alone, and other countries are in the middle of developing their own suitable regulatory environment. This provides excellent examples for New Zealand to work with and adapt to our own particular situation.

United Kingdom example

Ofgem, the British energy regulator, has recently issued its own guidance on the subject, calling for incentives to encourage people to charge their EVs outside of peak hours, increasing the number of cars supportable by the country's electricity network by 60%.[3] This is also similar to the British National Grid's own opinion, which is that flexible charging would halve the estimated additional generation needed to manage the demand.[4] The British National Grid acknowledges, however, that any sudden and urgent need is unlikely to happen overnight given the typical UK ownership cycle (eight to nine-year cycle), and that there is time to put together the right regulatory framework to support mass EV uptake.[5]

New Zealand

Transpower predicts that by 2050, New Zealand's light vehicle fleet will be 85% EVs. As it states in its white paper on energy futures, EVs will be "cheaper to run, cheaper to buy, cheaper to maintain, and will have a longer lifespan than internal combustion engines."[6] In New Zealand, were prices to charge EVs structured around peak and off-peak times, households could benefit if they adjust their use, potentially driving further uptake of EVs and enabling New Zealand to meet its net-zero carbon policies. Historically, however, there has been no incentive to do so.[7]

The grid infrastructure costs directly relating to accommodating charging electric vehicles at peak times can be overcome by ensuring there are the right incentives in place – not just when purchasing a vehicle, as the Ministry of Transport is currently investigating[8] – but also when that vehicle is charged. When further considering any regulatory measures of this nature, we submit that ChargeNet must be an integral part of these discussions and developments.

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[3] See "Ofgem proposes system reforms to support electric vehicle revolution". Released 23 July 2018, and available at: https://www.ofgem.gov.uk/publications-and-updates/ofgem-proposes-system-reforms-support-electric-vehicle-revolution.

[4] See "Electric Vehicle boom no sweat, says National Grid" available at: https://theenergyst.com/millions-electric-vehicles-sooner-predicted-no-sweat-says-national-grid, and released on 27 March 2018.

[5] Most recent figures from the Ministry of Transport confirm the average age of the New Zealand fleet is 14.3 years, compared with 7.4 for European countries. See here: https://www.transport.govt.nz/resources/transport-dashboard/2-road-transport/rd025-average-vehicle-fleet-age-years/

[6] *Te Mauri Hika*, Transpower White Paper (2018), available at: https://www.transpower.co.nz/sites/default/files/publications/resources/TP%20Energy%20Futures%20-%20Te%20Mauri%20Hiko%2011%20June%2718.pdf

[7] See Mercury Energy "EV drivers enjoy incentive to charge off-peak" 24 November 2017, available at: http://www.scoop.co.nz/stories/BU1711/S00821/ev-drivers-enjoy-incentive-to-charge-off-peak.htm

[8] See https://www.parliament.nz/en/pb/order-paper-questions/written-questions/document/WQ_20030_2018/20030-2018-jami-lee-ross-to-the-transport-acting-associate

Technological advances

Electric vehicle charging can be done intelligently, and if so, this would limit or avoid the need for large-scale investment into New Zealand's national grid to cope with any such mass uptake and electrical demand. Further, vehicle to grid (V2G) technology, or solar battery storage may also change the demands on the national grid. Small scale distributed generation (SSDG) is currently under review by the Electricity Authority, with consultation closing on 13 November 2018 and it is likely ChargeNet will also make a submission on this. We expect to have further clarity on this issue after then.[9]

End of submission

It is clear there is room for further regulation in the electricity sector to limit or avoid significant unnecessary investment into our national grid. We wish to remain part of the ongoing conversation.

[9] See Electricity Authority current consultation process here: https://www.ea.govt.nz/development/work-programme/operational-efficiencies/market-enhancement-omnibus/consultations/#c17636